

Abstract

An optical reflectance kit including a reading device and membrane test strip is disclosed for conducting a lateral flow assay. The reading device is portable. Assays may be conducted on bodily fluids to detect with high sensitivity the presence of certain hormones, glucose, or other bodily fluids of interest. Membrane test strips may receive a test fluid or test sample containing an analyte to be detected. The membrane test strips may be inserted directly into a receiving port of a reading device. Shielding stray light from the receiving port improves sensitivity and reduces the entry of stray or ambient light into the reading device. The reading device also includes one or more sensors capable of detecting the intensity of reflected electromagnetic radiation.